

Looking Into Electric Cars

Prologue

Session 5 : What's available

Worst case scenario (or interesting option) - I talked to the electrician doing a minor job at my house.

For \$2000 (maybe less) he could move a lot of stuff around and add a high amp 240v outlet in my garage.

He would check which slot does what, swap some locations, merge two low usage 120s and end up with room for a 240v line.



Looking Into Electric Cars

Prologue

Session 5 : What's available

Automatic transmission

VS

one pedal driving

Most cars were manual transmission and most drivers preferred that choice. Over time drivers shifted to automatic transmissions. It was easier and some situations, better and safer.

I believe you will find the same to be true about one pedal driving. After a short adjustment period, you will find them more efficient and safer.

Looking Into Electric Cars

Breaking news

Session 5 : What's available



MOTORTREND

The 2023 Toyota Prius Prime
Could Take 3 Weeks to
Recharge

Maybe this was meant to be funny, but I don't think so.

Charging an EV is very convenient. All it takes is matching up the sessions with your schedule. This into skldffls. The background noise about how slow all of them are. Toyota added (a not very useful) solar panel at an extra cost of \$600. . . . and if you drain the battery and only use solar to charge - it will take 3 weeks. Plug the car in - 4 hours at most.

Looking Into Electric Cars

Session 5 : What's available

Baby Blues By Rick Kirkman and Jerry Scott



Looking Into Electric Cars

Session 5 : What's available



For one million dollars

You get one Rimac Concept one

Or

40 Chevy Bolts



Session 5 : What's available



Chevy Bolt - price keeps changing

OOOOOPS

Basic Chevy Bolt

Minus the Federal Tax credit - \$7500.

So the Bolt is \$20,000 ?? (NEW)

So that would be 50 Bolts.

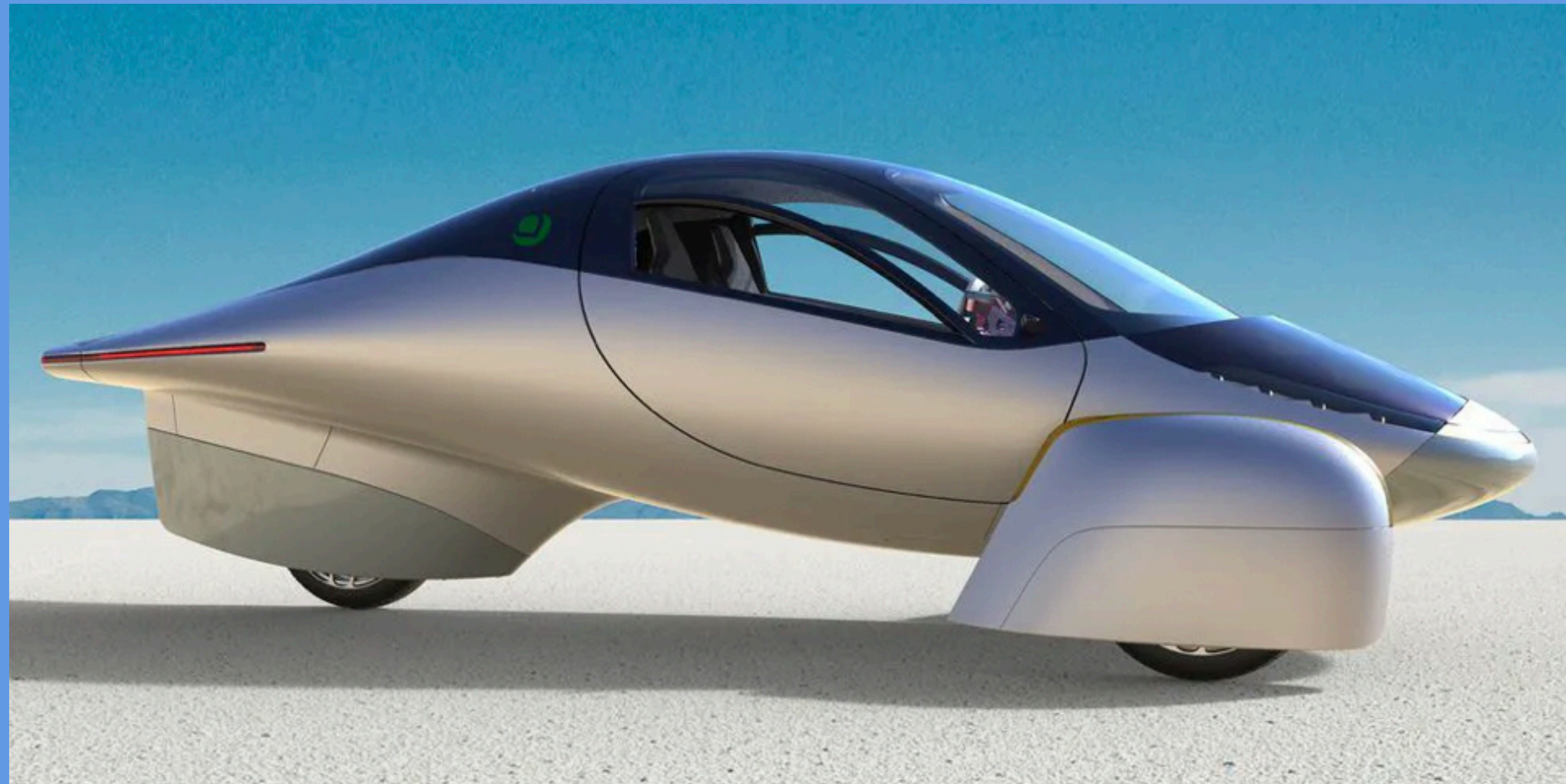
And they say EVs are expensive.

Session 5 : What's available

Before going into what is available.
Lets look at what's out there.

WAY out there

Session 5 : What's available

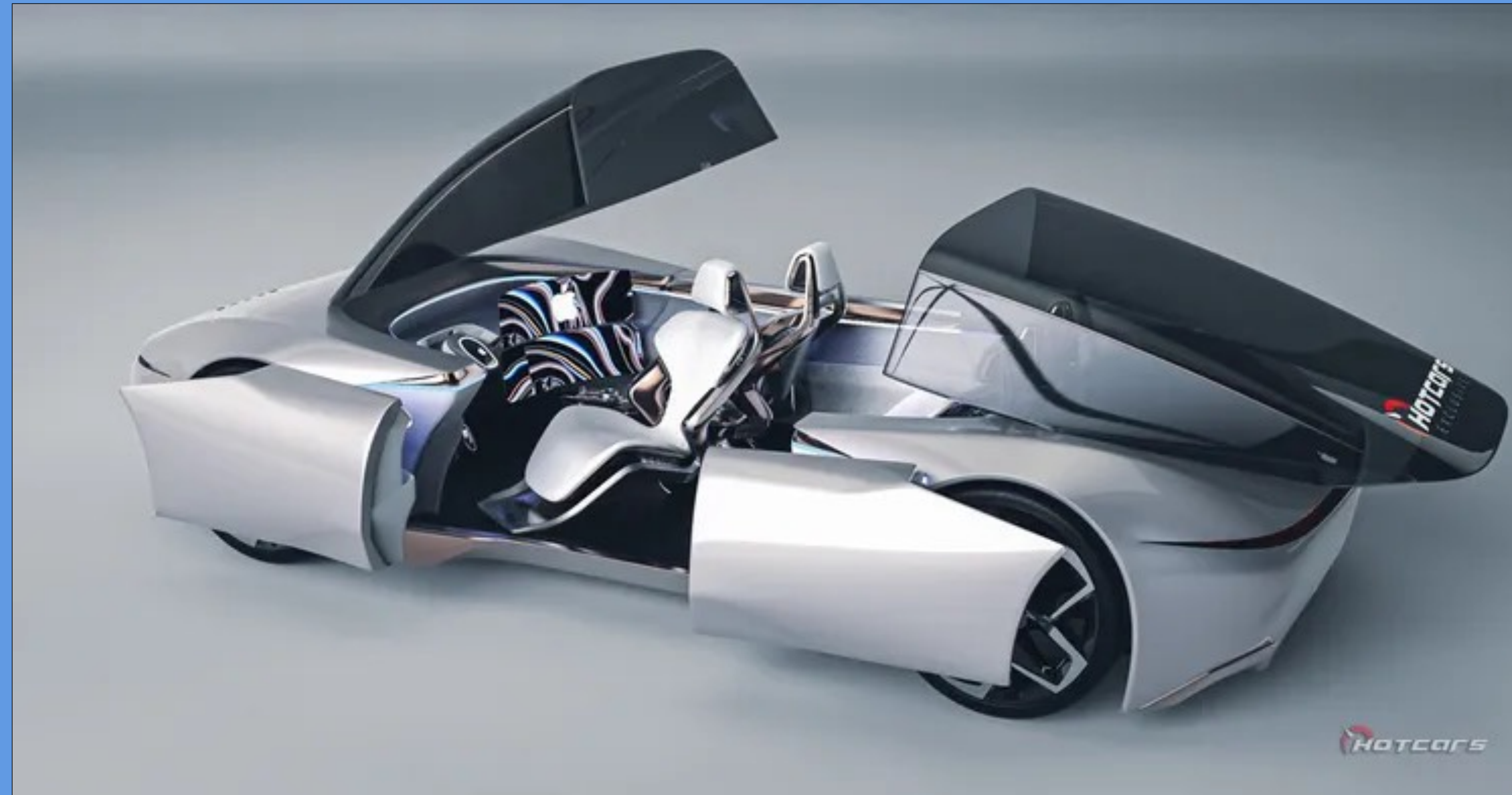


Aptera

I'm not including the odd cars. I keep on the look out for good solid cars. Ones that are designed well and drive well. Preferably just look like a car. PS Aptera will not qualify for tax credits (its a 3 wheeler)

It actually might do ok on small island where trips are short and the infrastucture is not well established. The car can go 30 miles by solar alone on good sunny days.

Session 5 : What's available

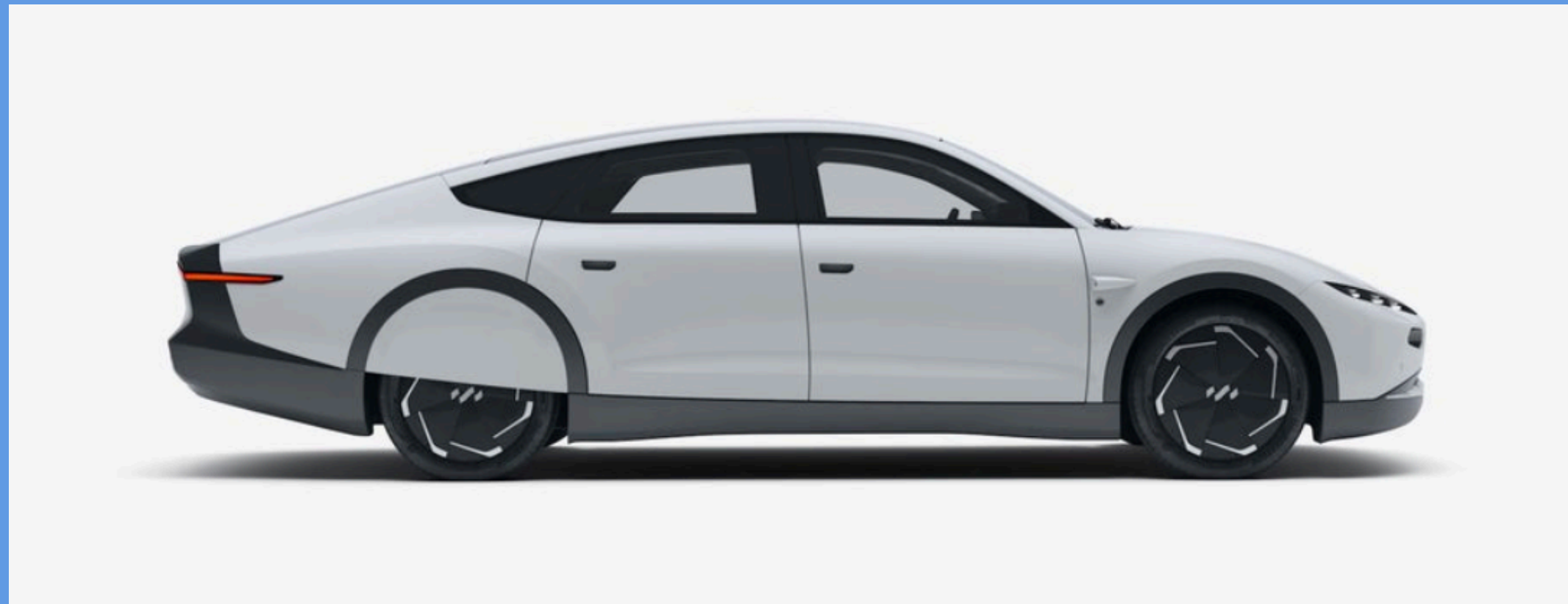


Lots of concept cars out there - most won't make this list as a matter of price. But if its not in current production - it won't be here. Blame it on the still not available Tesla Roadster and Cyber truck.

Session 5 : What's available

I'm not including the odd cars.

Solar Powered (Not really) Cars. With practically no solar charge advantage (or extreme price) they fall into the odd car category.



Lightyear Zero

\$262,000

Solar charge = 40 miles a day

Battery range only about 200 miles

Went into Bankruptcy Jan 2023



Sono Motors Scion \$25000

Solar charge = 10 miles a day

Battery range only about 180 mile.

RIP 2/24/2023 - refunds by jan 2025.

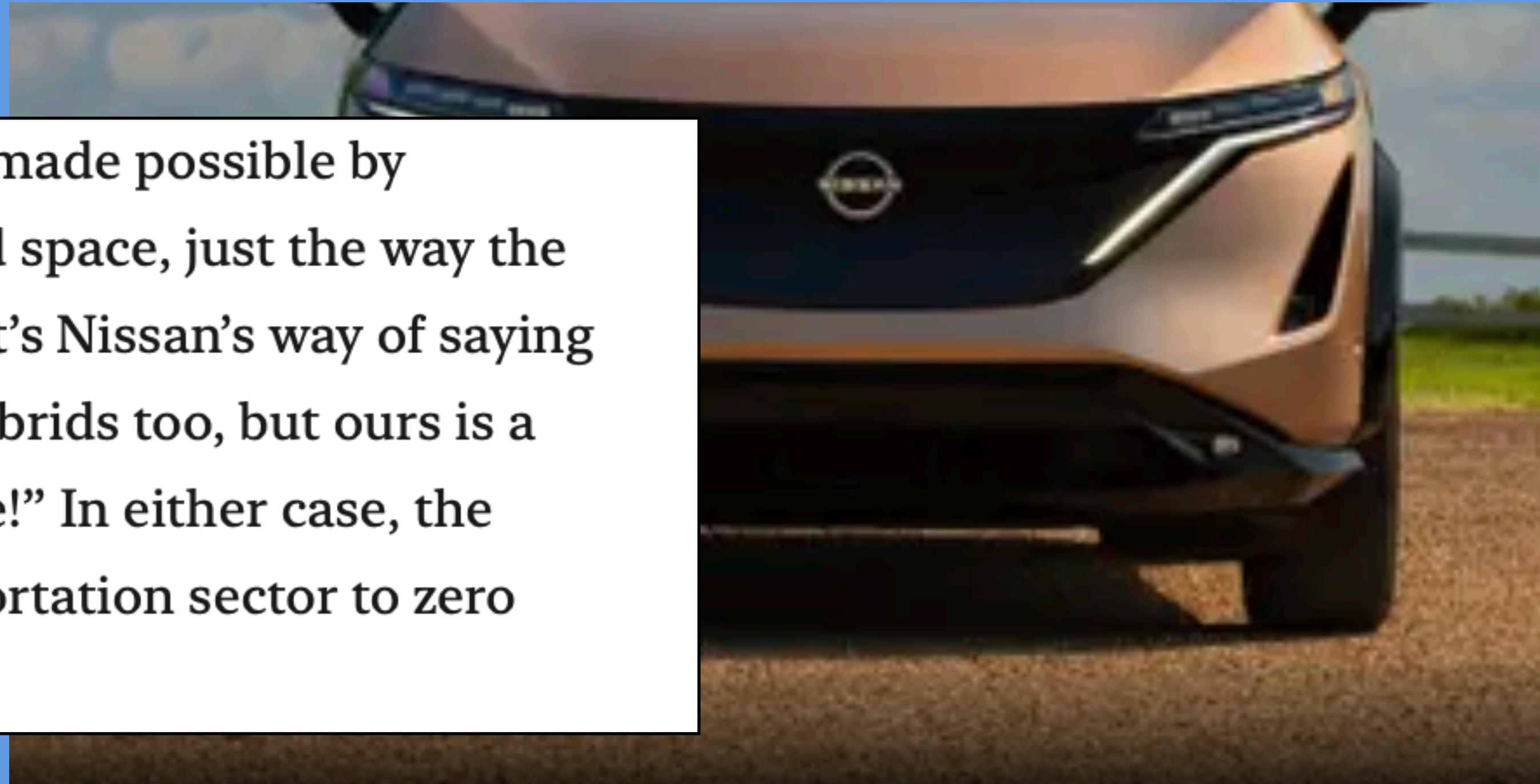


A real solar car - @ UI - used for research and competition.

Fake Electric Cars

Every mile you drive in an e-Power equipped car is made possible by exploding molecules of gasoline within an enclosed space, just the way the vast majority of cars have done for over a century. It's Nissan's way of saying to Toyota shoppers, "Nyah, nyah, nyah. We build hybrids too, but ours is a series hybrid and yours is a parallel hybrid. So there!" In either case, the technology is irrelevant to transitioning the transportation sector to zero emissions technology.

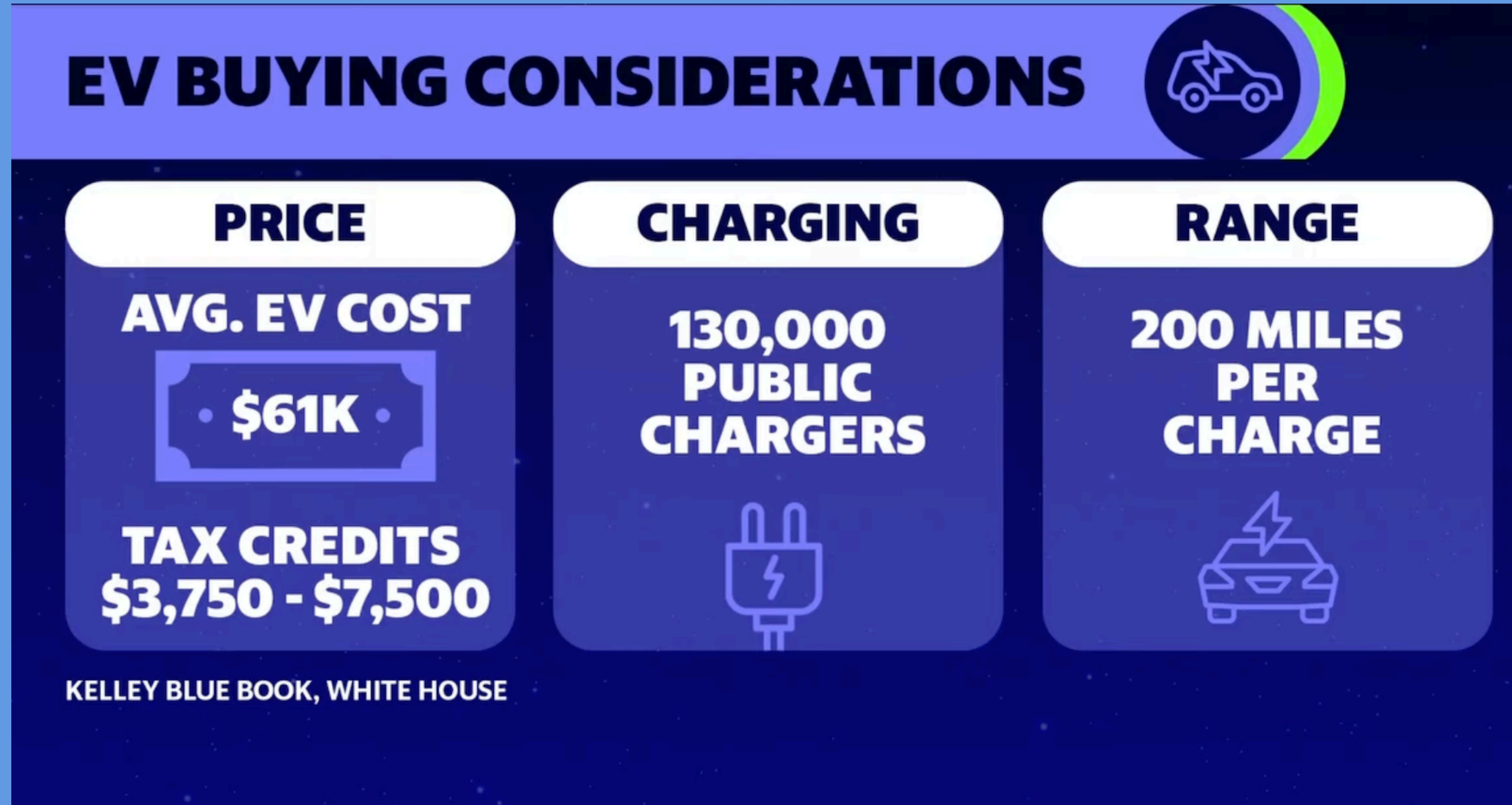
Electric Drive train is 100%
powered by gasoline.
Does NOT plug in to
charge.



Cars

Nissan Tiptoes Into The Electric Car Future

By [Steve Hanley](#)



Yahoo finance Apr 2023

\$61,000 !!! My average price for this list is \$40,100 (w/TC \$3700)
Reiterating - battery voltage more important than range.
Also EVs with smaller batteries have (marginally) higher efficiency.

Session 5 : What's available

Four things to consider in buying an EV

- 1) You have to like the car. Enjoying the drive is important.
- 2) TCO – (total cost of ownership) is what makes it affordable – how much you drive makes a difference. Amazon delivery vans drive many miles – save a truckload of money (pun intended.)
- 4) I believe the DCFC is more important than range.
- 5) developing and should be considered (California leads the country). V2X - various forms of bidirectional charging will be a big thing.

The Best And Worst Automakers For Markups in 2023: Who's Charging Above And Under MSRP?

Healthy discounts can be found from brands including Volvo, Lincoln, Infiniti, and Buick

A dealer can raise the price of their dealer stock over MSRP.
If you order the car, when it shows up on the dealers lot to finish the sale
the price should stay at MSRP

Session 5 : What's available

- 1) Heat pump rather than resistance heating. Good extra - heat pump available to precondition battery for charging (can aid efficiency and cold weather charging).
- 2) a battery pack with 800V architecture. The longer your trips on the highway - the more you want it.
- 3) get one pedal driving - if you don't like it now - you'll like it later
- 4) I don't know why so many EVs don't have rear window wipers.

Session 5 : What's available

If you're looking at 400V vs 800V charging, the latter is the clear winner, since it essentially halves charging time.

There are other benefits, too: the higher voltage creates a lower current, which reduces heat - always a good thing when it comes to EV batteries, as battery cooling systems can suck up power. Lower current also means charging cables can be thinner and less cumbersome, and certain electrical components in the car can also be thinner and smaller, making the car more lightweight and efficient.

With 800V architecture less charging and at higher speeds

Session 5 : What's available

	Q4 Sales	
	2022	2021
Audi	4,257	3,192
BMW	7,099	205
Brightdrop	-	-
Cadillac	86	-
Chevrolet	16,008	25
Ford	20,339	8,361
Genesis	550	-
GMC	72	1
Hyundai	5,600	2,900
Jaguar	8	136
Kia	3,491	2,347
Lucid	1,060	577
Mazda	-	146
Mercedes-Benz	5,656	443
Mini	1,171	680
Nissan	3,308	4,165
Polestar	2,774	1,320
Porsche	1,497	2,191
Rivian	8,054	583
Subaru	919	-
Tesla	131,574	115,248
Toyota	985	-
Volvo	2,842	1,708
Volkswagen	9,439	4,463
Total (Estimates)	226,789	148,691

2022 sales for EVs in the US. Tesla is the leader, sales of other models increasing.

Q4 2022

Kelly Blue book

Session 5 : What's available

I looked around and decided to only consider cars that are currently being delivered, reasonably priced, qualify for incentives.

Exceptions with no Federal incentives :

Toyota Prius

Hyundai Ioniq 5

and KIA EV6.

And now the Leaf

Yes - I am shopping for a car.
(Ask me I'll tell you why)

I picked ten cars to go over.

Two short range cars:

Chevy Bolt

Nissan Leaf.

Four longer range cars:

VW ID.4

Ford Mustang Mach-E

Ford Lighting (Pick-up)

Tesla Model 3

And two Plug-in hybrids

Ford Escape

Toyota Prius

And two noteworthy EVs without tax credit

Hyundai Ioniq 5

and KIA EV6

MotorWeek 2023 Drivers' Choice Awards Winners; Kia EV6 Takes "Best of the Year"




Kia EV6 wins Motorweek

Also Toyota Prius - family car of the year.

I'll start with the Nissan Leaf and present it as I did last fall. This is a PDF that I made for the Leaf.

It took a while to present this in a PowerPoint for all of the cars chosen. I will run through this for the Leaf to explain what is on them. Then will only present the remaining vehicles more simply. All vehicles mentioned will have these PDFs on the OLLI Download page. (But this last week fell apart and it will take more time to update and download them)

Nissan LEAF S From Electric for All



Basic Specs
Hatchback
5 Seats
23.6-30 cu. ft. Cargo Space

Fuel Type & Range
All-Electric
149 Electric Miles
40 Battery Size (kWh)

Acceleration
8.7 seconds to 60 miles per hour

Safety
NHTSA Rating N/A
IIHS Top Safety Pick

Recharge Speed

Home and Away		At Fast Charge Stations	
Level 1 4 mi 60 minutes	Level 2 22 mi* 16 minutes	Typical 41 mi 15 minutes	Max 41 mi 31 minutes

PRICE ESTIMATE* SEATS: 5
\$19,900
*After Incentives Applied
This price is reduced by federal \$7500 tax credit. You may not qualify for all of credit

EV DETAILS
Car Type: BEV | Electric Range: 149 Miles | Total Range: 149 Miles | HOV: 2

With my Oct 21 corrections.
MSRP. \$28040
This price becomes \$16,540 after fed credit & Illinois rebate.



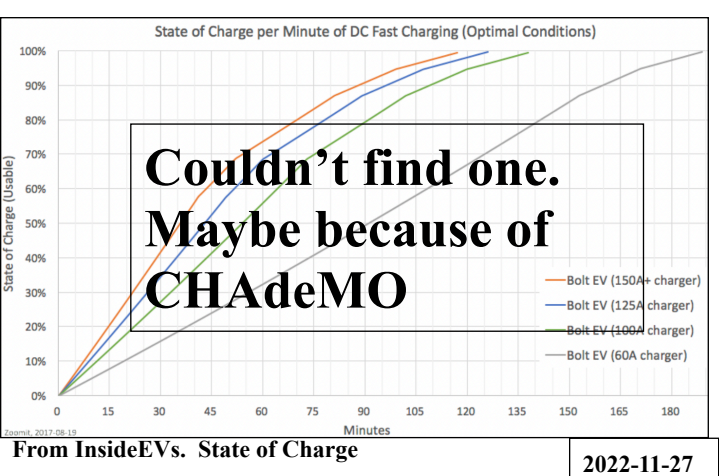
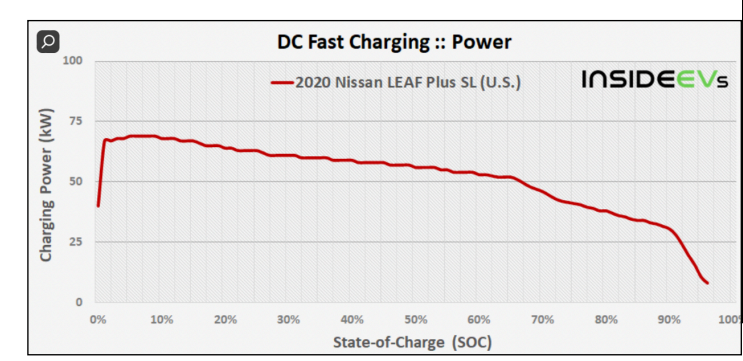
Nissan Leaf is assembled in North America gets tax credit . . . but Nissan Ariya isn't, so no federal tax credit for Ariya.

MPGe
111 combined city/hwy
123 city
99 hwy
30 kWh/100 mi

Electricity
149 miles
Total Range

From EPA

Available through dealers




Session 5 : What's available

VW ID.4

Volkswagen

ID.4 Standard From Electric for All





PRICE ESTIMATE* SEATS: 5


With my Apr 27 corrections MSRP \$38,945
This price becomes \$31,445 after fed credit

EV DETAILS

Car Type Electric Range Total Range

 BEV 209 Miles 209 Miles 


Basic Specs


Crossover

5
Seats

30.3-64.2
cu. ft. Cargo Space


Fuel Type & Range


All Electric

260
Electric Miles

82
Battery Size (kWh)

Acceleration


7.7 seconds
to 60 miles per hour


Safety


N/A
NHTSA Rating


N/A
IIHS Top Safety Pick

From Plugstar Recharge Speed


Home and Away


1% 
Level 1
4 mi


Range added in 
60 minutes

13% 
Level 2
32 mi*

At Fast Charge Stations

15% 
Typical
36 mi

Range added in 
15 minutes

41% 
Max
99 mi*


* Estimates only. Max rate accepted by the vehicle shown. Your experience may vary.

Session 5 : What's available

VW ID.4

Volkswagen



ID.4 Standard **From Electric for All**





PRICE ESTIMATE* *SEATS: 5*

With my Apr 27 corrections MSRP \$38,945
This price becomes \$31,445 after fed credit

EV DETAILS

Car Type	Electric Range	Total Range	
 BEV	209 Miles	209 Miles	HOV

 **99** **MPGe**
107 91
combined city hwy
city/hwy
34 kWh/100 mi

Electricity 

260 miles
Total Range

From EPA

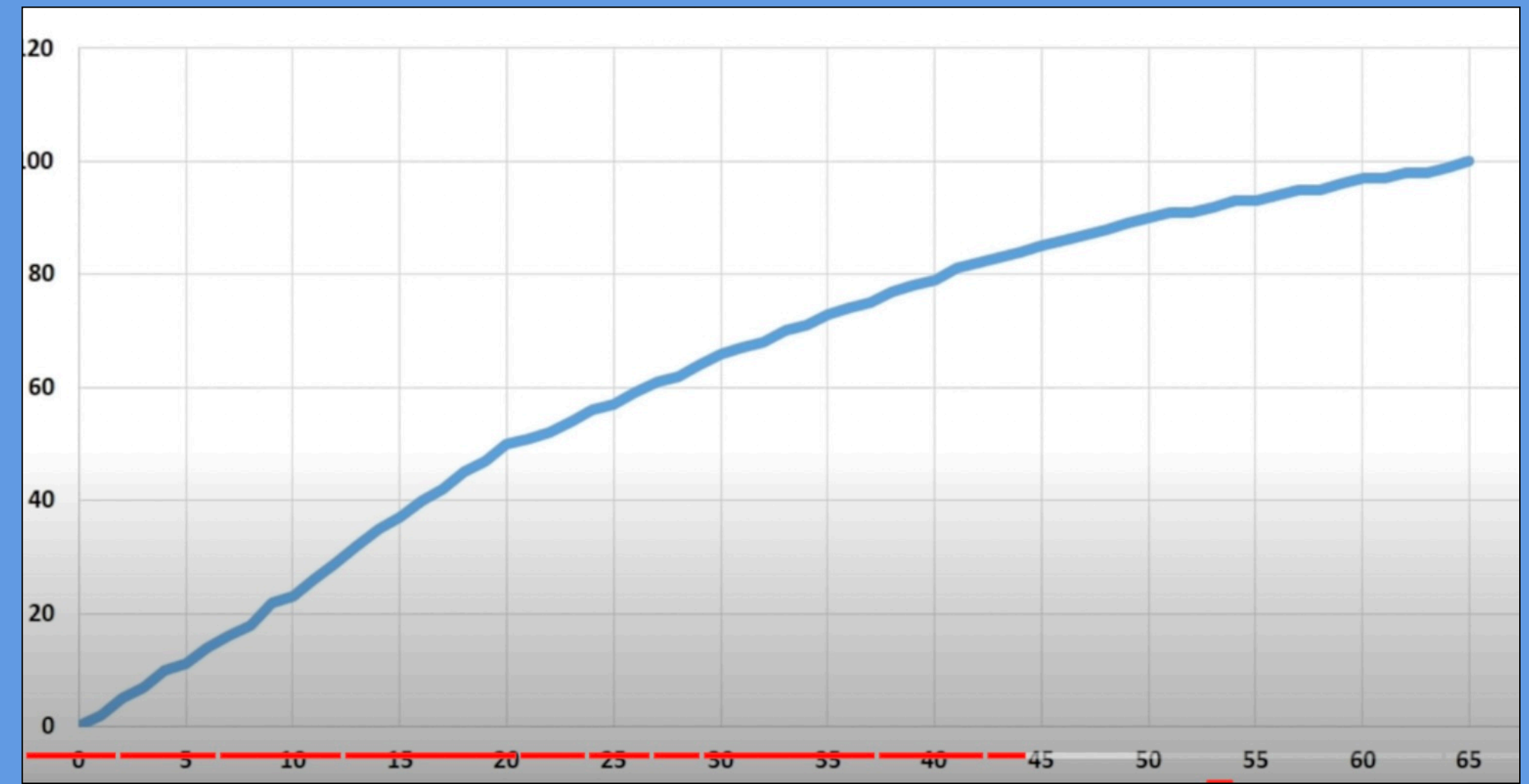
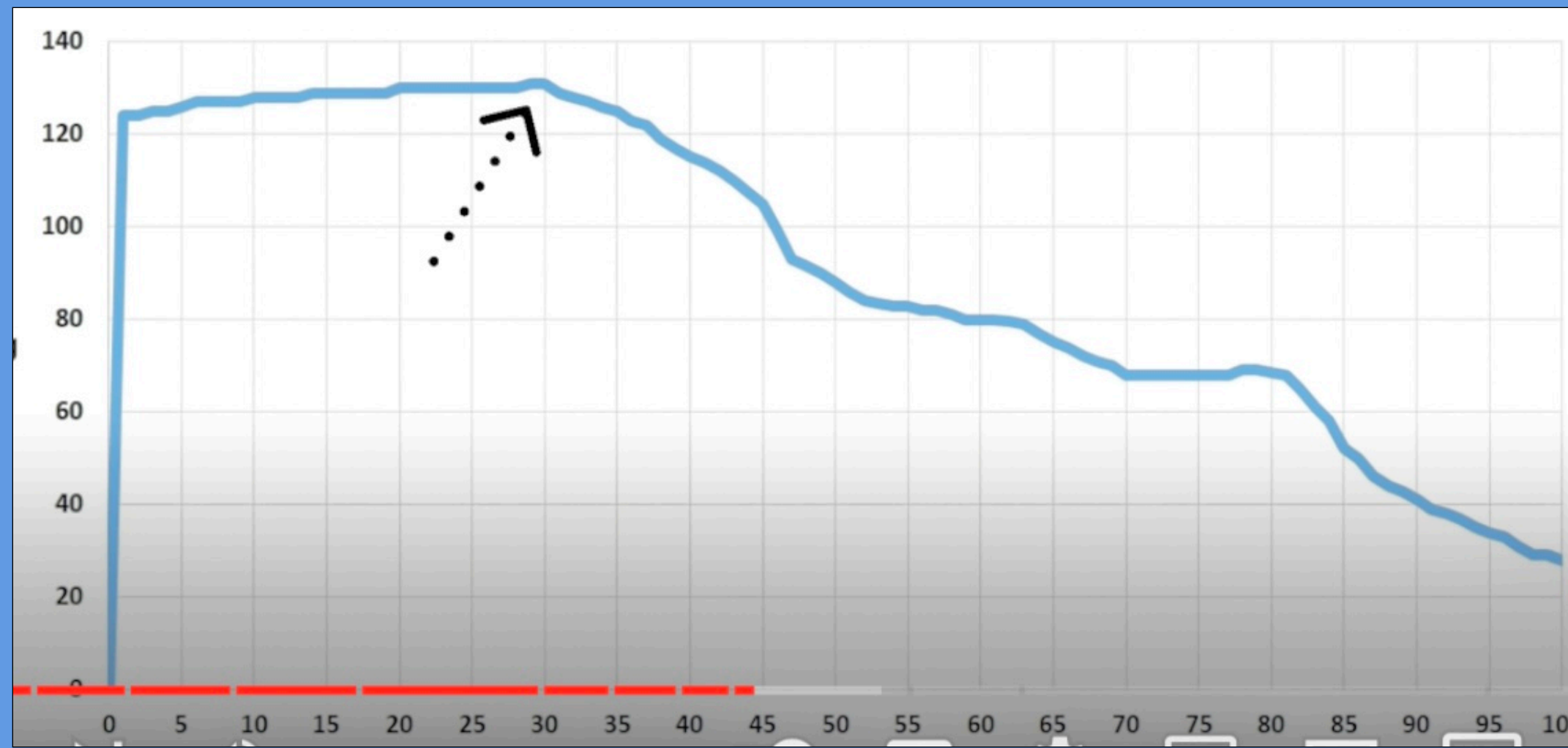
Charger no longer included.

Replaced by \$200 voucher towards a charger.

Online ordering available

Session 5 : What's available

VW ID.4



Notes for VW ID.4


DCFC rate peaks at 125 kw
&
Time to 80% = 40 minutes
Time to 100% = 65 minutes

Session 5 : What's available

Nissan Leaf

Nissan **LEAF S**

From Electric for All



PRICE ESTIMATE* *SEATS: 5*

With my Apr 27 corrections MSRP. \$27,990
This price becomes \$27,990 no fed credit

EV DETAILS

Car Type	Electric Range	Total Range	
BEV	149 Miles	149 Miles	HOV

111 **MPGe**
combined city hwy
city/hwy
30 kWh/100 mi

Electricity

149 miles
Total Range

From EPA

Charger included
110 only




Available through
dealers

Still assembled in the US - but fails on both of
the battery criteria.

Session 5 : What's available

Nissan

LEAF SV Plus **From Electric for All**



PRICE ESTIMATE* *SEATS: 5*

\$ 35,990

This price remains — no fed credit

EV DETAILS

Car Type	Electric Range	Total Range
BEV	212 Miles	212 Miles

111 **MPGe**
combined city hwy
city/hwy
30 kWh/100 mi

Electricity

149 miles
Total Range

From EPA

Available through dealers

Still assembled in the US - but fails on both of the battery criteria.

Nissan Leaf

Charger included
110 only



Session 5 : What's available

Chevy Bolt

Chevrolet
Bolt EV 1LT

From Electric for All




PRICE ESTIMATE*

SEATS: 5

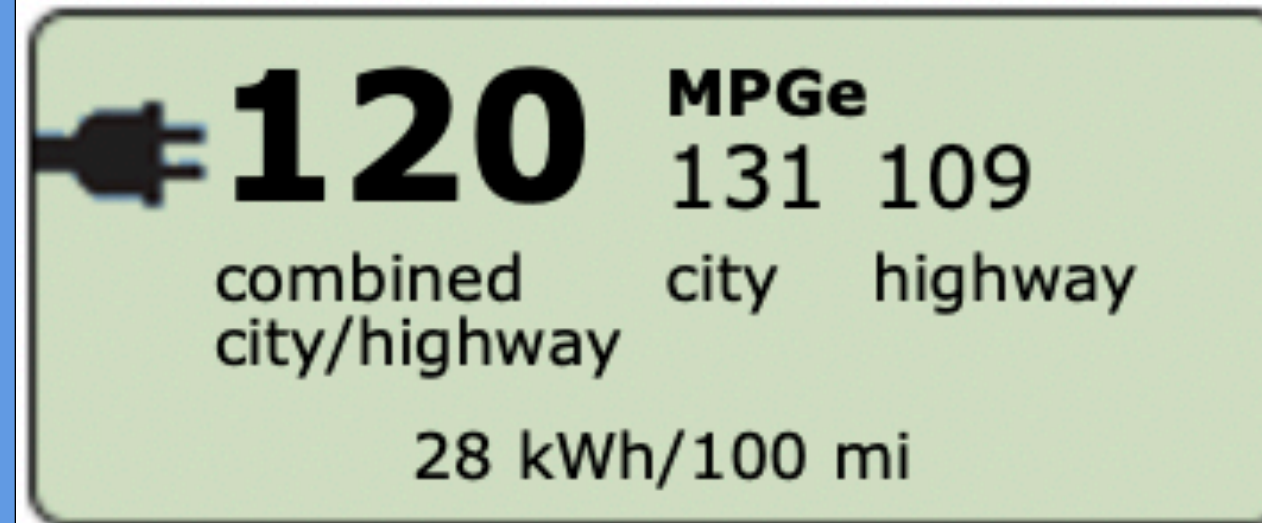
With my Apr 27 corrections. MSRP \$26,450
This price becomes \$18,950 fed credit

EV DETAILS

Car Type	Electric Range	Total Range	
 BEV	259 Miles	259 Miles	HOV

Electricity

From EPA



Electricity



From EPA

259 miles
Total Range

Available through
dealers

Charger included



Session 5 : What's available

GM killed the Chevy Bolt — and the dream of a small, affordable EV

The Chevy Bolt's demise underscores a trend toward larger, heavier, more expensive EVs. But the Bolt was always more practical than dramatic. And that's why it will be missed.

Dan Seifert • Apr 26, 2023 at 6:00 AM CDT



Chevy Bolt

Almost all news stories left out the part about the Equinox




2024 Chevy Equinox EV Still On Track For Fall 2023 Launch

Session 5 : What's available

VW ID.4

Volkswagen



ID.4 Standard **From Electric for All**





PRICE ESTIMATE* *SEATS: 5*

With my Apr 27 corrections MSRP \$38,945
This price becomes \$31,445 after fed credit

EV DETAILS

Car Type	Electric Range	Total Range	
 BEV	209 Miles	209 Miles	HOV

 **99** **MPGe**
combined city hwy
city/hwy
34 kWh/100 mi

Electricity 

260 miles
Total Range

Charger no longer included.

Replaced by \$200 voucher towards a charger.

Online ordering available


Session 5 : What's available

Mustang Mach-E

Ford

Mustang Mach E Select



From Electric for All





PRICE ESTIMATE* SEATS: 5

With my Apr 27 corrections MSRP \$49,650
This price becomes \$42,195 after fed credit

EV DETAILS

Car Type	Electric	Range	Total Range	
 BEV	247 Miles	247 Miles		HOV

97 MPGe
combined city hwy
city/hwy
35 kWh/100 mi


Electricity  

303 miles
Total Range

Online ordering available
(30-35 weeks wait)

PlugStar range 230
EPA range 303
Ford website range 247

Charger included.




Ford Mobile Power Cord

\$500 [Details](#)

Session 5 : What's available



Ford □
F-150 Lightning Pro
From Electric for All





PRICE ESTIMATE* *SEATS: 5*

With my Apr 27 corrections MSRP \$55,924
This price becomes \$48,424 after fed credit
Entry level models not currently available

EV DETAILS

Car Type	Electric	Range	Total Range	
 BEV	240 Miles	240 Miles	 HOV	

 **68** **MPGe**
76 61
combined city hwy
city/hwy
49 kWh/100 mi


Electricity 

230 miles
Total Range

Online ordering not available

Ford Lightning

Ford Mobile Power cord is included



Ford Mobile Power Cord

\$500 [Details](#)

Session 5 : What's available

Ford Lightning

Ford



F-150 Lightning Pro

From Electric for All



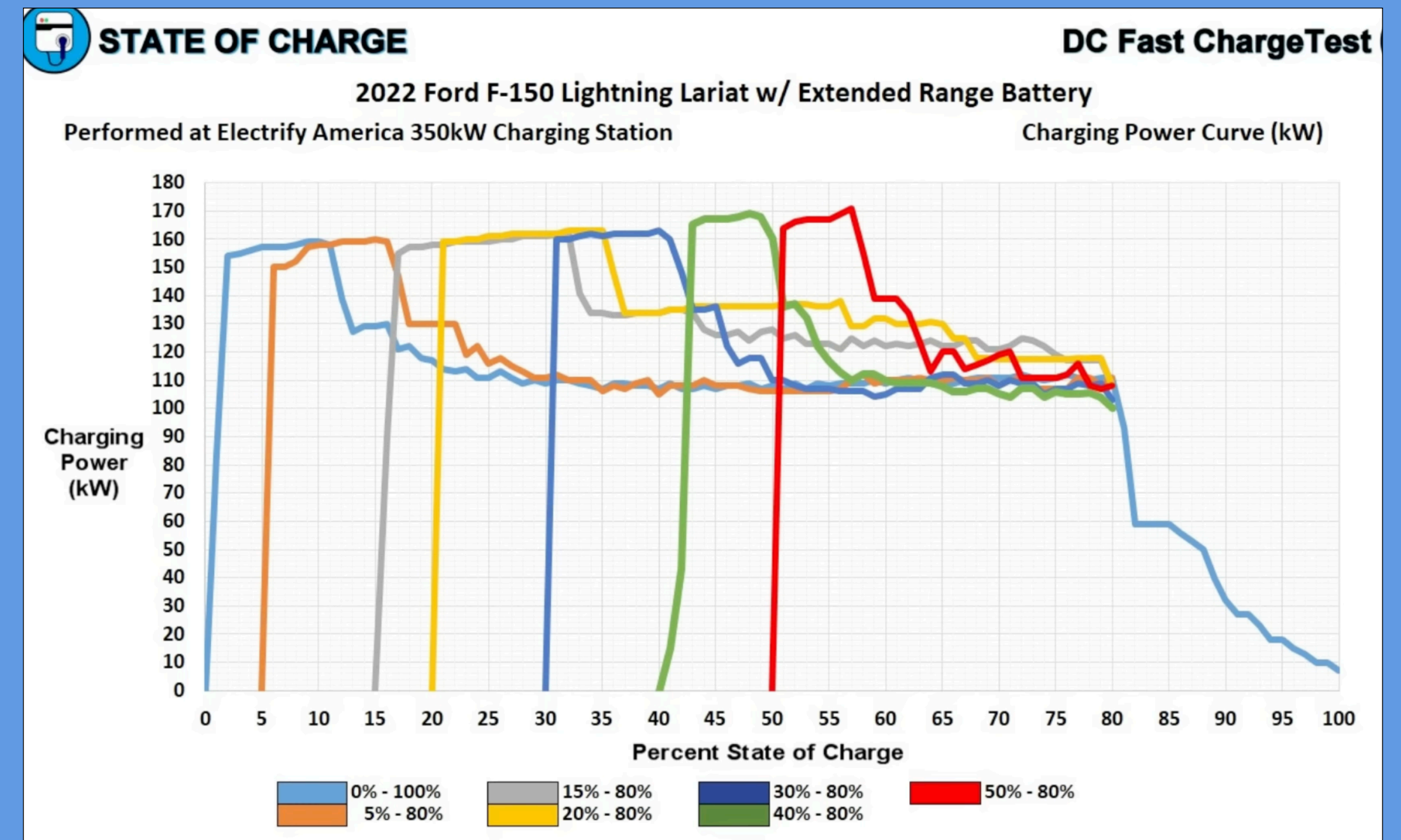
PRICE ESTIMATE*

SEATS: 5

With my Apr 27 corrections MSRP \$55,924
This price becomes \$48,424 after fed credit
Entry level models not currently available

EV DETAILS

Car Type Electric Range Total Range
BEV 240 Miles 240 Miles



Amazing charge curves.

The difference is the battery management software. Instead of peaking at a fixed state of charge. The rate peaks at whatever percentage you start at.


Session 5 : What's available

Tesla model 3

Tesla

Model 3 RWD

From Electric for All

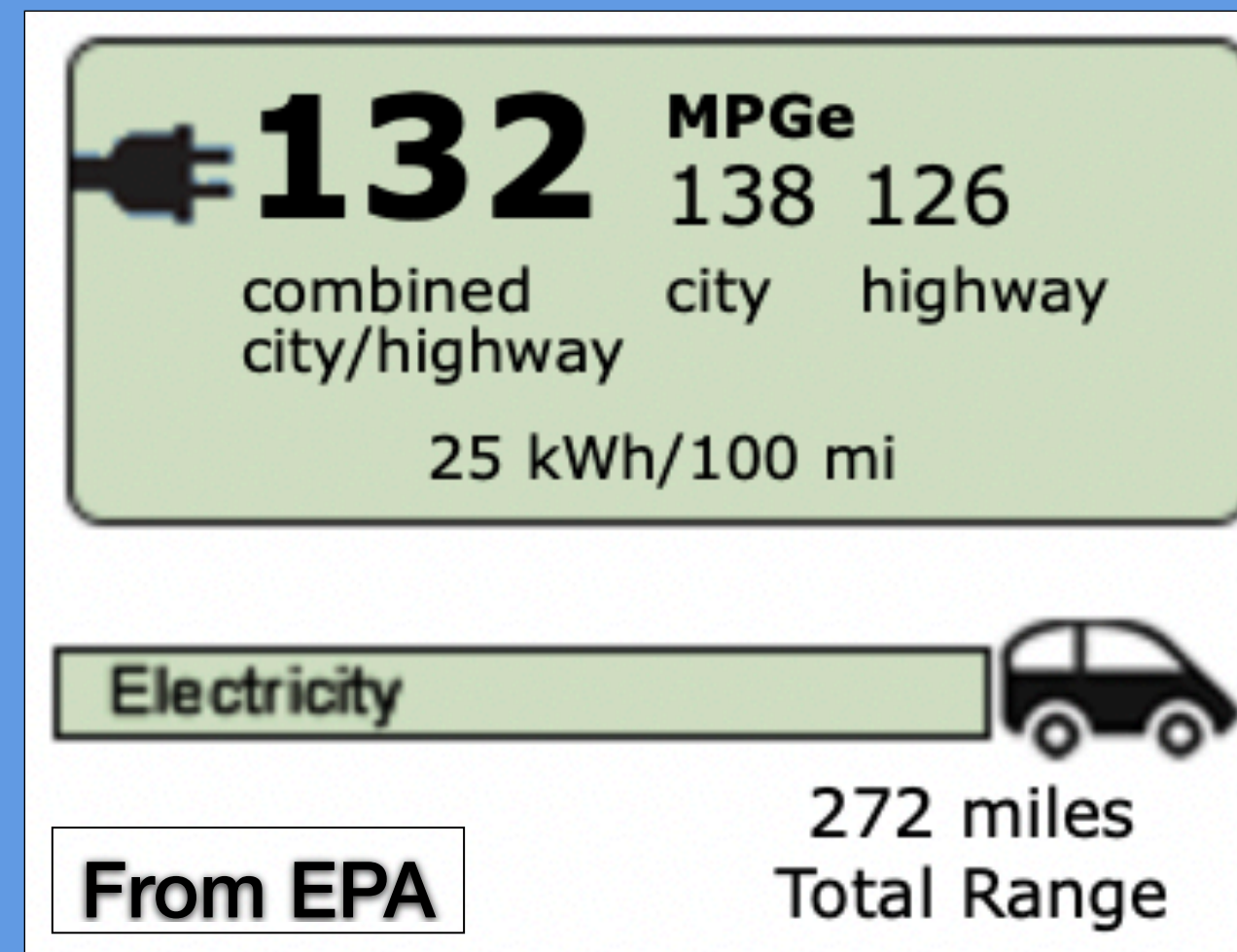


PRICE ESTIMATE* SEATS: 5

With my Apr 27 corrections. MSRP. \$45,690
This price becomes \$35395 after fed credit

EV DETAILS

Car Type	Electric	Range	Total Range	
BEV	272 Miles	272 Miles		HOV

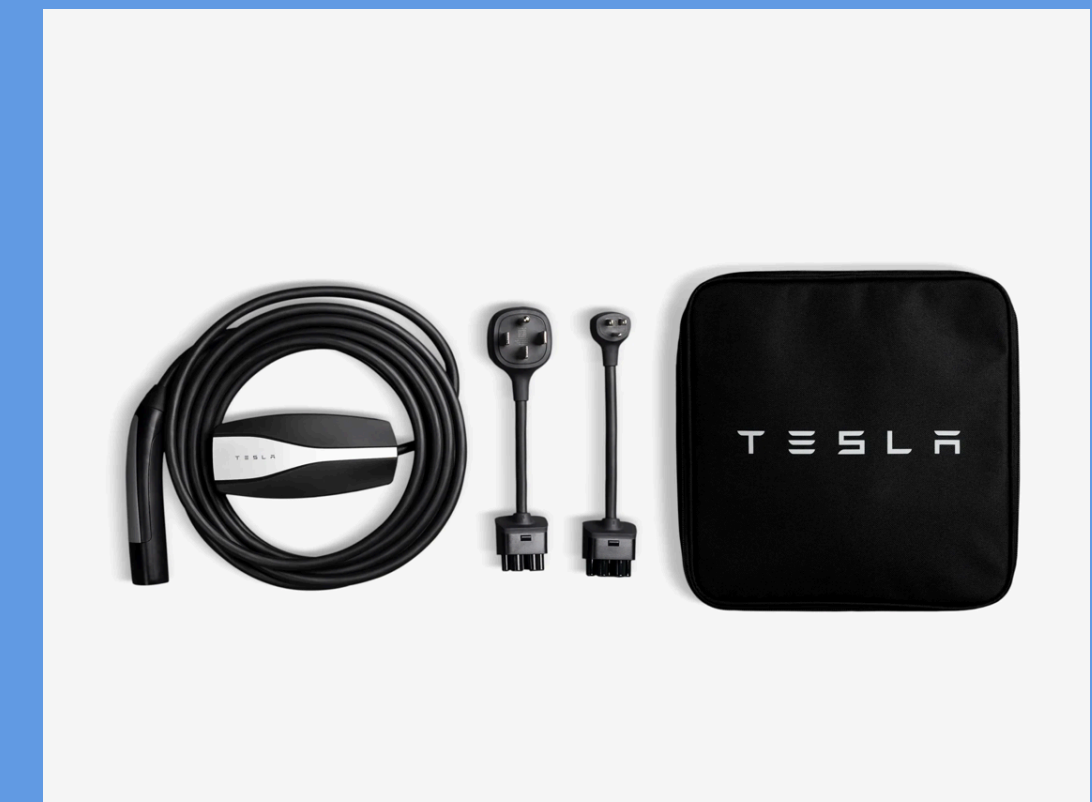


Online ordering

The long range only gets 1/2 tax credit

Tesla Mobile Connector cord no longer included.

Available for \$250



Session 5 : What's available

Before mentioning the PHEV
(Plugin Hybrid Electric Vehicles)

I want to reiterate that PHEV can be less expensive to drive off the dealers lot.

BUT

Over time the BEV (Battery only Electric Vehicle) will cost less over time. (And pollute less)


Session 5 : What's available

Ford Escape

Ford

Escape Plug-In Hybrid



From Electric for All



PRICE ESTIMATE* SEATS: 5

With my Apr 27 corrections MSRP \$38,500
This price becomes \$36,700 after fed credit

EV DETAILS


Car Type	Electric Range	Total Range	
 PHEV	37 Miles	520 Miles	HOV


37 miles driving with battery only is fairly good. I would not recommend any PHEV that gets less.

Tax credit is small - based on battery size.


Online ordering is not available. Contact dealer.

Elec + Gas

 **105** MPGe

 combined city/highway
.0 gal/100mi of gas
+ 32 kWh/100mi

110v Connector cord included.



Ford Mobile Power Cord

\$500 [Details](#)


Session 5 : What's available

Toyota Prius

Toyota

Prius Prime LE

????????????????



PRICE ESTIMATE* SEATS: 5

With my Apr 27 corrections MSRP \$33,000 ??

No info on when available.


EV DETAILS

Car Type	Electric Range	Total Range	
PHEV	25 Miles	640 Miles	HOV

Elec + Gas	Reg. Gas
133 MPGe combined city/highway .0 gal/100mi of gas + 25 kWh/100mi	54 MPG combined city/highway 1.9 gal/100mi
<p>Gasoline Only</p> <p>25 miles Elec + Gas 640 miles Total Range </p> <p>All Elec: 0-25 mi</p>	

From EPA

Connector cord included.



44 miles electric only


If you want to buy a RAV4 Prime or a Prius Prime, you can expect it to take 18 months to two years. PR says at dealerships in May. (Probably not in Illinois)

Source dated Oct 27, 2022

Session 5 : What's available

Hyundai
IONIQ 5 SE RWD


From Electric for All




PRICE ESTIMATE* *SEATS: 5*

With my Apr 27 corrections MSRP \$42,785
This price becomes \$42,785 no fed credit

EV DETAILS

Car Type	Electric Range	Total Range
 BEV	303 Miles	303 Miles

114 **MPGe**
combined city hwy
city/hwy
30 kWh/100 mi

Electricity 

303 miles
Total Range

From EPA

Available through
dealers.

Hyundai Ioniq 5

Connector cord
included.




Session 5 : What's available

Kia

EV6 Wind RWD



From Electric for All





PRICE ESTIMATE* *SEATS: 5*

With my Apr 27 corrections MSRP \$48,950
This price becomes \$48,950 no fed credit

EV DETAILS

Car Type	Electric	Range	Total Range	
 BEV	232 Miles	232 Miles		HOV

 **114** **MPGe**
combined city hwy
city/hwy
30 kWh/100 mi

Electricity 

303 miles
Total Range

From EPA

Available through
dealers.

Motorweek EV of the year

Hyundai Ioniq 5

Connector cord
included.



Session 5 : What's available

Building a USA factory will be necessary to qualify for the Federal tax credit.

Car makers starting the process of a US Factory

Audi

Canoo

KiaEV

Polestar south Carolina 2024

Vinfast

Ford and Chevy- multiple factory projects.

Honda batteries in Ohio

VW batteries in canada

Siemens EVSE

ABB EVSE

Tritium EVSE

(I'm positive I missed some)

Session 5 : What's available

Toyota BZ4X. \$42,000 252 miles



Toyota not tax credit eligible - not assembled in the US

Motto for Toyota EVs seems to be "We think we can't"

Toyota made a big announcement that nobody wants EVs. This is their 1st EV and seems to have rushed it out. There is a metaphor about having the wheels fall off, but they had to recall all of initial shipment because the wheels were actually falling off. Toyota also made another statement in early October that California CAFE goals are likely unreachable.

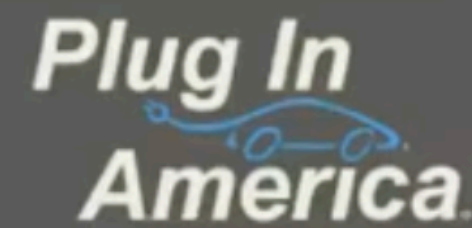
Session 5 : What's available



More \$30,000 EVs on the way !! ? ?

Things look a lot better with Fisker and Chevy. Both are a foot or two longer than the bolt. Equinox is expected in fall of 2023 for about \$30,000 and a 300 mile range. Fisker Pear also targets \$30,000 and 300 mile range. (Actual appearance of the pear is still a secret) Pear will possibly in 2024. Equinox reservations not open yet.

a used car thing



Used EV Tax Credit

Vehicle Requirements	Income Caps	Credit Amount
<ul style="list-style-type: none">• Vehicle must be at least 2 years old• Under \$25,000• Sold by a dealer• No additional sourcing requirements (eg. critical minerals, battery components, final assembly)	<p>Eligible consumers must fall at or below the income caps:</p> <ul style="list-style-type: none">• \$150,000 for joint return or surviving spouse• \$112,500 for head of household• \$75,000 for others	<p>\$4,000 or 30% of the price of the vehicle (whichever is less)</p>

www.pluginamerica.org

a used car thing




Used EV Tax Credit

Vehicle Requirements	Income Caps	Credit Amount
<ul style="list-style-type: none">• Vehicle must be at least 2 years• Under \$25,000• Sold to individual• No additional sourcing requirements (eg. critical minerals, battery components, final assembly)	<p>Eligible consumers must fall at or below the income caps:</p> <ul style="list-style-type: none">• \$150,000 for joint return or surviving spouse• \$112,500 for head of household• \$75,000 for others	<p>\$4,000 or 10% of the price of the vehicle (whichever is less)</p>

www.pluginamerica.org

a used car thing



PREMIUM! ELECTRIC! 1-OWNER!

Sam Leman
Sam Leman
Sam Leman

Sam Leman TOYOTA BLOOMINGTON | 309.662.3800


Sponsored

Used 2019
Volkswagen e-Golf ...
8,627 miles • USED • ...



\$25,950

GREAT PRICE

See estimated payment


Sam Leman Toyota
Bloomi... (45.5 ... 



Verizon 9:10 PM 61%

Used 2019
Volkswagen e-Golf ...  
\$25,950 • 8,627 miles

Used 2019
Volkswagen e-Golf SEL **\$25,950**
8,627 miles **See estimated payment**

GREAT PRICE

Confirm Availability 

Call Dealer  **Text Dealer** 

MILE RANGE 125 **EXTERIOR** GRAY **INTERIOR** BLACK

ENGINE INFO
Electric


TRANSMISSION
Single-Speed

DRIVE TYPE
2 Wheel Drive - Front

See all Features >


Call **Confirm Availability**

a used car thing




Used 2021 Nissan Leaf SL Plus
31,037 miles • USED • ...

\$27,777


 GREAT PRICE


See estimated payment



Illini Nissan
Champ... (1.9 mi.) 



Verizon 9:09 PM 61%



Used 2021 Nissan Leaf SL Plus
\$27,777 • 31,037 miles


Used 2021 Nissan Leaf SL Plus **\$27,777**
See estimated payment
31,037 miles 


Confirm Availability 

Call Dealer  **Dealer Website** 

  **TAP HERE**
THE 2023 NISSAN LEAF
Advertisement


MILE RANGE 215 **EXTERIOR**  GRAY **INTERIOR**  BLACK

ENGINE INFO
 **Electric**

TRANSMISSION
 **Single-Speed**

Call **Confirm Availability**

a used car thing



Used 2018 BMW i3 s
19,239 miles • USED • ...

\$24,279

GREAT PRICE

See estimated payment

BMW of Bloomington
Bloomi... (45.5 ...)

Verizon 9:08 PM 59%

Used 2018 BMW i3 s
\$24,279 • 19,239 miles

Used 2018 BMW i3 s
19,239 miles

\$24,279
See estimated payment

GREAT PRICE

Confirm Availability

Call Dealer **Dealer Website**

MILE RANGE 107 **EXTERIOR** BLACK **INTERIOR** GRAY

ENGINE INFO
Electric


TRANSMISSION
Single-Speed

DRIVE TYPE
2 Wheel Drive - Rear

See all Features

Call **Confirm Availability**

a used car thing



Used 2016 Volkswagen e-Golf ...
36,374 miles • USED • ...

\$15,200

GREAT PRICE

See estimated payment

Napleton's Auto Park...
Urbana,... (3 mi.)

Verizon 9:10 PM 61%

Used 2016 Volkswagen e-Golf ... \$15,200 • 36,374 miles

1/23 **ALL ELECTRIC!!!!**

Used 2016 Volkswagen e-Golf SE **\$15,200**
See estimated payment

36,374 miles **GREAT PRICE**

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MILE RANGE 83 **EXTERIOR SILVER** **INTERIOR BLACK**

ENGINE INFO Electric

TRANSMISSION Single-Speed

DRIVE TYPE 2 Wheel Drive - Front

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The end for now.